ACTUARIAL SCIENCE (ACTSCI)

ACTSCI 290 Introduction to Actuarial Science
3 cr. Undergraduate.
Overview of the actuarial profession, financial risks, and types of insurance products; risk components; and risk evaluation methods.
Prerequisites: Satisfaction of Quantitative Literacy Part A GER.
Last Taught: Spring 2023, Fall 2022, Spring 2022, Fall 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 391 Investment Mathematics I
4 cr. Undergraduate.
Examination of annuities, loans, bonds, portfolio immunization, and interest rate swaps. Foundational preparation for the Financial Mathematics (FM) Professional Actuarial Exam.
Prerequisites: a grade of C or better in MATH 211(P) or MATH 232(P).
Course Rules: Previously MATH 311.
Last Taught: Spring 2023, Fall 2022, Spring 2022, Fall 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 490 Introduction to Actuarial Practice
1 cr. Undergraduate.
Professional topics such as healthcare, pensions, life insurance, property and casualty, reinsurance, and regulation.
Prerequisites: ACTSCI 290(P).
Course Rules: May be retaken for cr once. Counts as repeat of MTHSTAT 591.
Last Taught: Fall 2022, Fall 2021, Fall 2020, Fall 2019.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 491 Actuarial Workshop FM
1 cr. Undergraduate.
Continuation of topics from ACTSCI 391 along with practice and preparation for the Financial Mathematics (FM) Professional Actuarial Exam.
Prerequisites: ACTSCI 391(C) or consent of instructor.
Course Rules: Counts as a repeat of MTHSTAT 593. Retakeable up to 2 cr max.
Last Taught: Spring 2023, Fall 2022, Fall 2021, Fall 2020.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 492 Actuarial Workshop P
1 cr. Undergraduate.
Continuation of probability topics from MTHSTAT 361 along with practice and preparation for the Probability (P) Professional Actuarial Exam.
Prerequisites: MTHSTAT 361(C) or consent of instructor.
Course Rules: Counts as a repeat of MTHSTAT 592. Retakeable up to 2 cr max.
Last Taught: Spring 2023, Fall 2022, Spring 2022, Spring 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 590 Actuarial Internship
1-6 cr. Undergraduate.
Apply principles and techniques of actuarial science in business, governmental and other appropriate settings.
Prerequisites: soph st; 6 cr 300-level or above in ACTSCI or MTHSTAT; GPA in ACTSCI and MTHSTAT courses at least 2.5.
Course Rules: One cr earned for academic work based on 40 hours in internship. May be retaken to 6 cr max.
Last Taught: Summer 2023, Fall 2022, Summer 2022, Spring 2022.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 591 Investment Mathematics II
3 cr. Undergraduate.
Mathematical models in finance and economics, corporate finance.
Prerequisites: MTHSTAT 361(P); ACTSCI 391(P).
Course Rules: Counts as repeat of MTHSTAT 692.
Last Taught: Fall 2022, Fall 2021, Fall 2020, Fall 2019.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 593 Actuarial Models I
3 cr. Undergraduate.
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.
Prerequisites: ACTSCI 391(P); MTHSTAT 361(P); MTHSTAT 362(C).
Course Rules: Counts as a repeat of MTHSTAT 691.
Last Taught: Fall 2022, Fall 2020, Spring 2019, Spring 2017.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 594 Actuarial Models II
3 cr. Undergraduate.
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.
Prerequisites: ACTSCI 593(P); MTHSTAT 362(P).
Last Taught: Spring 2023, Spring 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 596 Actuarial Statistics I
3 cr. Undergraduate.
Loss models for short term insurance and their statistical fitting.
Prerequisites: MATH 234(P) or MATH 240(P) and MTHSTAT 362(P).
Course Rules: Previously MTHSTAT 596.
Last Taught: Fall 2021, Fall 2019, Fall 2017.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 597 Actuarial Statistics II
3 cr. Undergraduate.
Credibility theory, ratemaking, and reserving.
Prerequisites: MATH 234(P) or MATH 240(P) and MTHSTAT 362(P).
Course Rules: Previously MTHSTAT 597.
Last Taught: Spring 2022, Spring 2020, Spring 2018, Spring 2016.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 599 Capstone Experience
1 cr. Undergraduate.
Independent research on current financial and insurance topics that are not covered in regular actuarial courses.
Prerequisites: senior standing.
Course Rules: May be retaken for cr once.
Last Taught: Spring 2023, Fall 2022, Summer 2022, Fall 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 790 Actuarial Internship
1-6 cr. Graduate.
Apply principles and techniques of actuarial science in business, governmental and other appropriate settings.
Prerequisites: graduate standing.
Course Rules: One cr earned for academic work based on 40 hours in internship. May be retaken to 6 cr max.
Last Taught: Summer 2023, Spring 2023, Fall 2022, Summer 2022.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 791 Investment Mathematics II
3 cr. Graduate.
Mathematical models in finance and economics, corporate finance.
Prerequisites: graduate standing.
Last Taught: Fall 2022, Fall 2021, Fall 2020.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 793 Actuarial Models I
3 cr. Graduate.
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.
Prerequisites: graduate standing.
Last Taught: Fall 2022, Fall 2020.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 794 Actuarial Models II
3 cr. Graduate.
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.
Prerequisites: grad st; ACTSCI 593(P); MTHSTAT 362(P).
Last Taught: Spring 2023, Spring 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 796 Actuarial Statistics I
3 cr. Graduate.
Loss models for short term insurance and their statistical fitting.
Prerequisites: graduate standing.
Last Taught: Fall 2021.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 797 Actuarial Statistics II
3 cr. Graduate.
Credibility theory, ratemaking and reserving.
Prerequisites: graduate standing.
Last Taught: Spring 2022, Spring 2020.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 891 Actuarial Risk Theory
3 cr. Graduate.
Risk models; premium principles; reinsurance contracts; ruin theory; ordering of risks; bonus-malus systems; IBNR techniques.
Prerequisites: grad st; MATH 571(P) & ACTSCI 596(P), or consent of instructor.
Course Rules: Previously MTHSTAT 795.
Last Taught: Spring 2022, Fall 2019, Fall 2017, Fall 2015.
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 895 Topics in Actuarial Science:
3 cr. Graduate.
Advanced topics in actuarial science.
Prerequisites: graduate standing; 6 credits of 700 level ACTSCI coursework.
Course Rules: Repeatable to 9 credits max. Counts as a repeat of MTHSTAT 896 with a similar topic.
Last Taught: Spring 2023, Spring 2021.
Current Offerings: https://catalog.uwm.edu/course-search/